We claim:

1. A nucleic acid encoding a protein IIP-1 which binds to an IGF-1 receptor, wherein the nucleic acid is selected from the group consisting of:

   a) SEQ ID NO:1;

   b) nucleic acids which hybridize under stringent conditions with a complement sequence to SEQ ID NO:1 and encode a polypeptide which binds to IGF-1 receptor; and

   c) nucleic acids that due to the degeneracy of the genetic code encode a IIP-1 polypeptide having the amino acid sequence of one of the polypeptides encoded by the sequences of a) and b).

2. The nucleic acid according to claim 1, wherein said nucleic acid comprises SEQ ID NO:2.

3. A nucleic acid according to claim 1, wherein the hybridization in b) is performed in 5.0 x SSC, 5 x Denhardt, 7% SDS, 0.5 M phosphate buffer pH 7.0, 10% dextran sulfate and 100 µg/ml salmon sperm DNA at about 50°C-68°C, followed by two washing steps with 1 x SSC at 68°C.

4. A recombinant expression vector for expressing a polypeptide comprising SEQ ID NO:2, the recombinant expression vector comprising a nucleic acid as claimed in claim 1.

5. A host cell transformed by a nucleic acid of claim 1.

6. A host cell transformed by a nucleic acid of claim 3.

7. A recombinant polypeptide which binds to the IGF-1 receptor encoded by a nucleic acid according to claim 1.

8. A recombinant polypeptide which binds to the IGF-1 receptor encoded by a nucleic acid according to claim 3.

9. A method for the production of a protein which binds to an IGF-1 receptor, the method comprising expressing an exogenous DNA in prokaryotic or eukaryotic host cells and isolating the protein, wherein the exogenous DNA comprises a nucleic acid of claim 1.

10. A method for the detection of the proliferation potential of a cancer cell comprising

a) incubating a sample containing nucleic acids from the cancer cells with a nucleic acid probe which is selected from the group consisting of SEQ ID NOS:1, 3 and 5 and nucleic acids which are complementary thereto; and

b) detecting the hybridization by means of a further binding partner of at least one of the nucleic acid of the sample and the nucleic acid probe.

11. The method of claim 10 wherein said sample is selected from the group consisting of body fluid of a patient suffering from cancer; tumor cells; a tumor cell extract; and a cell culture supernatant of said tumor cells.

12. The method of claim 10, wherein hybridization is effected at least with the nucleic acid fragment of SEQ ID NO:1 or SEQ ID NO:5 or the complementary fragment.

13. The method of claim 10 wherein the nucleic acid to be detected is amplified before the detection.

14. A method for screening for a compound that inhibits the interaction between IGF-1 Receptor and IIP-1 comprising:

a) combining IGF-1 Receptor and IIP-1 polypeptide with a solution containing a candidate compound such that the IGF-1 Receptor and said IIP-1 polypeptide are capable of forming a complex and

b) determining the amount of complex relative to the predetermined level of binding in the absence of the compound and therefrom evaluating the ability of the compound to inhibit binding of IGF-1 Receptor to said IIP-1.